

Patricia M. French
Senior Attorney



300 Friberg Parkway
Westborough, Massachusetts 01581
(508) 836-7394
(508) 836-7039 (facsimile)
pfrench@nisource.com

July 12, 2005

BY OVERNIGHT DELIVERY AND E-FILE

Mary L. Cottrell, Secretary
Department of Telecommunications and Energy
One South Station
Boston, MA 02110

Re: Bay State Gas Company, D.T.E. 05-27

Dear Ms. Cottrell:

Enclosed for filing, on behalf of Bay State Gas Company ("Bay State"), please find Bay State's responses to the following Record Requests:

From the Attorney General:

RR-AG-5 RR-AG-7

From the Department:

RR-DTE-7 RR-DTE-18 RR-DTE-20 RR-DTE-21 RR-DTE-22

RR-DTE-29 RR-DTE-30 RR-DTE-31 RR-DTE-32 RR-DTE-33

RR-DTE-34

Please do not hesitate to telephone me with any questions whatsoever.

Very truly yours,

Patricia M. French

cc: Per Ground Rules Memorandum issued June 13, 2005:

Paul E. Osborne, Assistant Director – Rates and Rev. Requirements Div. (1 copy)

A. John Sullivan, Rates and Rev. Requirements Div. (4 copies)

Andreas Thanos, Assistant Director, Gas Division (1 copy)

Alexander Cochis, Assistant Attorney General (4 copies)

Service List (1 electronic copy)

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

RESPONSE OF BAY STATE GAS COMPANY TO
RECORD REQUESTS FROM THE ATTORNEY GENERAL
D.T.E. 05-27

Date: July 12, 2005

Responsible: Stephen H. Bryant, President

RR-AG-5: Does NiSource allocate O&M expenses to the services company NCSC?

Response: NiSource does not allocate O&M expenses to the service company NCSC.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

RESPONSE OF BAY STATE GAS COMPANY TO
RECORD REQUESTS FROM THE ATTORNEY GENERAL
D.T.E. 05-27

Date: July 12, 2005

Responsible: Stephen H. Bryant, President

RR-AG-7: Provide previous operational services agreement.

Response: Attached please find a redlined version showing the changes being made to the January 1, 2003 Operational Services Agreement between Bay State Gas Company and Northern Utilities, Inc. This was filed as part of Docket No. 2002-614 in Maine.

Operational Services Agreement

BETWEEN

BAY STATE GAS COMPANY

AND

NORTHERN UTILITIES, INC.

Effective Date

January 1, 2003

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OPERATIONAL SERVICES AGREEMENT

This Agreement is made as of January 1, 2003 by and between Bay State Gas Company (hereinafter called "Bay State") and its wholly owned subsidiary, Northern Utilities, Inc. (hereinafter called "Northern"). Bay State and Northern, collectively referred to herein as the "Companies".

The Companies are corporate affiliates in the NiSource Inc. System, which is comprised of NiSource Inc. and its corporate subsidiaries. Bay State and Northern each maintains an organization of personnel experienced in the operations of public utilities together with appropriate facilities and equipment through which each is prepared to furnish operational services to the other, as hereinafter provided.

The rendition of such services on a coordinated basis enables the recipients of such services to realize benefits through (1) efficient use of common operating management, personnel and equipment; (2) coordination of analysis and planning; and (3) availability of operating personnel and equipment which they may economically share.

All operating services will be performed at cost, which cost shall be fairly and equitably apportioned among such services, and in compliance with the Securities and Exchange Commission's rules promulgated under the Public Utility Holding Company Act of 1935.

The operational services to be rendered hereunder will be of substantially the same character and kind as each of Bay State and Northern presently perform for itself; and

NOW THEREFORE, Bay State and Northern, in consideration of the mutual agreements hereinafter contained, do hereby severally agree with each other that (1) Bay State and Northern may render to each other and Bay State and Northern will purchase from each other the operational services hereafter described at cost, and (2) the payments made by Bay State and Northern to each other hereunder shall be apportioned between their respective Bay State-Massachusetts (All), Bay State-Lawrence, Maine and New Hampshire retail service areas as appropriate and set forth in Schedule A, Exhibits 1, ~~and~~ 2, and 3.

1. *Agreement to Furnish Services.* The operational services (and related equipment and materials) furnished hereunder shall be upon the terms and conditions set forth in Schedule A, which is attached hereto and constitutes a part hereof, such of the services described in Article II of said Schedule A, at such times, for such periods and in such manner, may from time to time be requested. Bay State and Northern will maintain organizations sufficient to render with efficiency and reasonable promptness such of the services described in Article II of said Schedule A as may reasonably be requested, but neither shall be obligated to perform any services hereunder without reasonable notice.

2. *Termination.* Either party hereto may terminate its participation in this Agreement upon not less than thirty (30) days' written notice to the other party; provided, however, that this Agreement shall be terminated automatically (i) to the extent that performance under this Agreement may conflict with any rule, regulation or order of the Securities and Exchange Commission adopted before or after the making of this Agreement, or (ii) if this Agreement shall become invalid or illegal under any state law or under any rule, regulation or order of any state commission or other state body having jurisdiction in the premises.

3. *Regulatory Approval.* The parties hereto acknowledge that this Agreement shall not become effective until all required regulatory approvals have been obtained. The amounts of compensation, charges for service, price or any other amount to be paid by Bay State for services rendered by Northern shall be subject to review and determination by the Massachusetts Department of Telecommunications and Energy in any proceeding brought under section ninety-three or ninety-four of M.G.L. Chapter 164.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed as of the date and year first above written.

BAY STATE GAS COMPANY

By: _____
Name: Stephen H. Bryant
Its: Vice President

NORTHERN UTILITIES, INC.

By: _____
Name: Danny G. Cote
Its: General Manager

Schedule A

Operational Services Available to Client
Methods of Charging Therefor and
Miscellaneous Terms and Conditions of Operational Services Agreement

ARTICLE I. *Definitions*

The term “Operational Services Agreement” shall mean an agreement, of which this Schedule A constitutes a part, for the rendition of operational services and furnishing of related equipment and materials.

1. The term “Client” means the corporation (Bay State or Northern) to which operational services may be rendered under this Operational Services Agreement.
2. The term “Companies” means Bay State and Northern.

ARTICLE II. *Description of Operational Services*

The operational services and facilities which Bay State or Northern is prepared to render and furnish, as requested from time to time by the Client, are set forth in general terms below. The details listed under each heading are intended to be illustrative rather than inclusive and are subject to modification from time to time in accordance with the state of the art and the needs of the Client.

1. *Operations and Maintenance.* Advise and assist Client in obtaining all needed expert operations and maintenance (“O&M”) services as may be required to plan for the construction, operation, maintenance and repair of the Client’s facilities in order to serve customers and meet the demands of the Client’s gas distribution system. Examples of such O&M services may include, but are not limited to, the following activities: billing, maintenance of customer records, data entry, call center, revenue recovery, gas dispatch, field dispatch, scheduling, storage of equipment and materials, engineering, the supervision of construction of new mains and services of the distribution system, the analysis, design and planning for gas operation and distribution functions, the construction, maintenance and operation of gas distribution system, the maintenance of gas appliances and equipment, energy products and services, demand side management services, inventory management, transportation operation services, operational development, safety and any other operational functions which either Bay State or Northern is capable of supplying the other.

Schedule A

- ~~3.2.~~ *Budget and Financial Services.* Advise and assist the Client in matters involving the preparation and development of operating and capital budgets and budgetary controls. Prepare and implement plans for financing the capital needs of the Client.
- ~~4.3.~~ *Marketing and Advertising.* Advise and assist the Client in the preparation and use of advertising and marketing, managing the development of residential, commercial and industrial business, and carrying out sales activities.
- ~~5.4.~~ *Metering Services.* Advise and assist the Client in connection with all aspects of meter reading, testing, replacement and calibration. Advise and assist with planning, installation and operation of radio networks, remote control and other electronic or automated metering devices and methodologies.
- ~~6.5.~~ *Employee Services.* Advise and assist the Client in connection with employee relations matters, including recruitment, employee placement, training, compensation, safety, labor relations and health, welfare, employee benefits, and other human resource-related activities.
- ~~7.6.~~ *Office Space.* As may from time to time be available, provide suitable office space for the use of the Client and its officers and employees.
- ~~8.7.~~ *Officers.* The Companies may elect to any office of Bay State and/or Northern any officer or employee of Bay State or Northern. Services rendered to the Client by such person as an officer shall be billed to the Client and paid for as provided in Articles III and IV.
- ~~9.8.~~ *Miscellaneous Services.* Render to Client such other operational services, not hereinabove described, and any administrative services related to operational services as may properly be rendered by the Companies to such Client within the meaning and intent of the Public Utility Holding Company Act of 1935 and any other applicable statutes and the orders, rules and regulations of the Securities and Exchange Commission and any other governmental bodies having jurisdiction, as from time to time the Companies may be equipped to render and such Client may desire to have performed. The Companies may provide additional services, modify or exclude any of the described services as may be required in the future for the proper operation of Bay State and Northern.

Schedule A

ARTICLE III. *Computation of Compensation*

The amounts that the Client shall pay to the service provider (Bay State or Northern, as applicable) shall be determined as provided in this Article III.

All Operational Services

1. *Specific Direct Salary Charges to Client*

To the extent that time spent by the employees of Bay State or Northern engaged in rendering operational services to the specific Client, a direct salary charge, computed as provided in Article IV, shall be made to such Client.

2. *Apportioned Direct Salary Charges to Client*

To the extent that the time spent by such officers and employees is related to services rendered to Bay State and Northern generally, a direct salary charge, computed as provided in Article IV, shall be made to the appropriate Client generally, and allocated to the appropriate Clients on an equitable basis. See Attachment 1 of Schedule A for a list of the allocation bases to be used to distribute charges for Operational Services provided by or to Northern or Bay State, except for charges relating to Operational Services rendered by or to Bay State's Lawrence Division. See Attachment 2 of Schedule A for a list of the allocation bases to be used to distribute charges for Operational Services rendered by or to Bay State's Lawrence Division. See Attachment 3 of Schedule A for illustrative examples of the allocation bases and methods to be used to distribute charges for Operational Services specifically associated with the Inside Sales Group (e.g., Cost Center 05500), Gas Sales Management and Inside Sales Representatives (e.g., Cost Center 03500), Gas Sales and EP&S Management (e.g., Cost Center 05315), and Marketing and Advertising (e.g., Cost Center 03315). The data used for each basis will be updated semi-annually.

3. *Apportionment of Employee Benefits*

The employee benefit expenses which are related to direct salary charges made pursuant to sub-paragraphs (1) and (2) of Article III shall be apportioned based on a percentage of total benefits to total labor dollars.

4. *Other Expenses*

All expenses, other than salaries and employee benefit expenses, incurred by Bay State or Northern in connection with services rendered to a specific Client, such as travel expenses, shall be charged directly to the Client. All such expenses incurred Schedule A

by Bay State or Northern in connection with services rendered to Bay State and Northern generally, as described below, shall be apportioned in the manner set forth in subparagraph (2) of this Article III for the apportionment of salary charges. Such Schedule A

other general expenses ("Overhead") may include: rents; depreciation; amortization; interest; taxes; non-productive time of employees; compensation of employees performing office service functions; costs of general office supplies; charges for utility, maintenance and similar services; program fees and other fees; and all other such expenses normally treated as Overhead.

ARTICLE IV. *Computation of Direct Salary Charges*

The direct salary charge per hour which shall be made for the time of any employee for services rendered in any calendar month shall be computed by dividing his total compensation for such month by the aggregate of (1) the number of scheduled working hours for which he was compensated, including hours paid for but not worked, and (2) hours worked in excess of his regular work schedule, whether or not compensated for.

ARTICLE V. *Process for Payments*

1. *Statement of Charges*

As soon as practicable after the close of each month Bay State or Northern may issue to the Client an Invoice or make the appropriate inter-company journal entries (collectively a "Bill") with supporting Detail of Charges which will itemize the amounts due from the Client for Services, and other expenses for such month, computed pursuant to Articles III and IV. All amounts so billed shall normally be paid by the Client by the end of the month following the provision of such Operational Services and reflected as journal entries on the appropriate Client's General Ledger. To the extent required by law, all Bills rendered by Bay State or Northern to the Client shall be accompanied by a statement showing the manner in which such charged was determined and the cost to the Company of the service rendered.

2. *Information to be Furnished*

The Client will forward to the service provider from time to time, as requested, such financial and statistical information as the service provider may need to compute the

Schedule A

charges payable by such Client upon such basis as may have been specified pursuant hereto.

~~Schedule A~~

ARTICLE VI. *Inspection of Records*

Each party agrees to keep its books and records available for inspection at all reasonable times by representatives of the Client in order that the correctness of the charges made hereunder for services to the Client may be verified by the Client.

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COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

RESPONSE OF BAY STATE GAS COMPANY TO
RECORD REQUESTS FROM THE D.T.E.
D.T.E. 05-27

Date: July 12, 2005

Responsible: Danny G. Cote, General Manager

RR-DTE-7: Explain the difference in BSG/DGC - 9 (list 8) verses exhibit BSG/DGC - 9 chart page 2 of 2.

Response: The hurdle rate indicated on list 8 is 8.75%. The 2002 Authorization for the project indicates a hurdle rate of 11.4%. The hurdle rates are different because in May of 2002 the Company implemented a Risk Adjusted Hurdle Rate framework as described in Attachment UWUA-3-53 (b) of Information Request UWUA-03-53. The framework recognizes that different kinds of growth investments had different risk profiles, and therefore should have different hurdle rates.

For example, a typical C&I Service installation would have a hurdle rate of 8.6% and a Key Account contract with a supporting contract guaranteeing the revenue stream would also have a hurdle rate of 8.6%. On the other hand, a Multi-Phased Project with load and customer additions spread over several years would have a hurdle rate of 11.4%, due to the increased uncertainty of the project.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

RESPONSE OF BAY STATE GAS COMPANY TO
RECORD REQUESTS FROM THE D.T.E.
D.T.E. 05-27

Date: July 12, 2005

Responsible: John Skirtich, Consultant (Revenue Requirements)

RR-DTE-18: Provide a list of corrections with dollar amounts identified during discovery that impact the cost of service. Update on an ongoing basis.

Response: Please see Attachment RR-DTE-18.

**Bay State Gas Company
2005 General Rate Case
List of Corrections and Updates**

<u>Ln. No.</u>	<u>Descriptions</u> (1)	<u>Detail</u> (2)	<u>Inc. (Dec.) to Revenue Requirement</u> (3) (\$)
1	Additional Con Ed revenue (AG-9-2)		(404,852)
2	Additional Metscan lease cost (DTE-1-21)		395,810
3	Inflation:		
4	Residual O&M expense - Schedule JES-6, Pg. 19, Ln. 23	34,053,380	
5	Schedule JES-6, Pg. 19, Ln. 25 Feb. 3.51%		
6	Updated (AG-3-26 SUPP) July 4.31%	<u>0.80%</u>	272,427
7	Insurance premium - wrong allocation percentages (AG-3-9)		(133,699)
8	Property tax - updated Schedule JES-9, Pg. 3 (AG-3-36)		(91,840)
9	Allocation of non - utility property tax expense (DTE-1-5)		(22,538)
10	Metscan depre. rate - 24.17% vs. 24.71% (DTE-5-29)		
11	Book cost of Metscan @ March. (JES-7, Pg. 3, Ln. 43)	644,449	
12	Difference in rate	<u>-0.54%</u>	(3,480)
13	2005 exempt labor:		
14	2005 percentage increase - Workpaper JES-6, Pg. 3, Ln. 11	2.00%	
15	2005 percentage increase - Schedule SAB-4, 2005 exempt	2.30%	
16	Difference	0.30%	
17	2004 annualized labor - Workpapers JES-6, Pg. 3, Ln. 3	4,524,758	
18	Additional labor (Ln. 16 * Ln. 17)		13,574
19	Related Payroll Taxes		
20	Line 12 above	13,574	
21	Tax rate - Schedule JES-9, Pg. 4	<u>7.65%</u>	1,038
22	Depreciation linkage correction:		
23	Workpaper JES-7, Pg 1, Ln. 27	53,250	
24	Schedule JES-7, Pg 2, Ln. 4	<u>66,839</u>	13,589
25	Property linkage correction		
26	Workpaper JES-9, Pg 1, Ln. 27	1,444	
27	Schedule JES-9, Pg 2, Ln. 5	1,507	63

**Bay State Gas Company
2005 General Rate Case
List of Corrections and Updates**

Ln. No.	<u>Descriptions</u> (1)	<u>Detail</u> (2)	<u>Inc. (Dec.) to Revenue Requirement</u> (3) (\$)
28	Rate case expense:		
29	Amortization as filed - Schedule JES-6, Pg. 8	331,700	
30	Amortization per DTE-22-58	<u>343,004</u>	<u>11,304</u>
31	Total Corrections and Updates		<u>51,396</u>

Note: Amounts will be affected by uncollectible rate of about 2.17%

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

RESPONSE OF BAY STATE GAS COMPANY TO
RECORD REQUESTS FROM THE D.T.E.
D.T.E. 05-27

Date: July 12, 2005

Responsible: John Skirtich, Consultant (Revenue Requirements)

RR-DTE-20: Provide an explanation of the difference between an attached and unattached EP&S contracts for customers.

Response: Attached would be a statement that would include both natural gas and any product and service that the customer receives from the Company, such as a Guardian Care Service Contract, Rental Equipment, or Fee for Service Activity. Unattached would be when the customer receives a statement for products and services that is separate from their statement for natural gas.

A customer may receive an unattached statement for a variety of reasons. The most common reasons would be:

- The customer may request a separate statement for products and services.
- The customer consistently has an outstanding balance on their gas account. Based on payment posting rules, if the customer has an outstanding balance on their gas account, all payments would be posted to that account, resulting in the products and services account(s) being consistently past due. Rather than simply canceling the Rental or Guardian Care contract, the Company would create a separate, or unattached statement, and the customer would decide how to apply the payment on a month-to-month basis.
- The individual responsible for the product and service payment is a landlord. The gas statement would go to the tenant, but the product and service statement would go to the landlord.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

RESPONSE OF BAY STATE GAS COMPANY TO
RECORD REQUESTS FROM THE D.T.E.
D.T.E. 05-27

Date: July 12, 2005

Responsible: John Skirtich, Consultant (Revenue Requirements)

RR-DTE-21: Provide the number of Guardian Care customers BSG has and provide the number of fee for service customers served.

Response: The number of Guardian Care customers and number of Fee for Service orders is presented in MOC-04-05 (a) and is shown below.

Number of Customers

	2002	2003	2004	2005 Ytd May
Furnace, Boiler and WH Installs	1,312	1,238	1,389	513
Fee For Service	12,757	8,610	6,688	3,384
Annual Inspections	10,804	6,758	11,039	2,288
Guardian Care Contracts	43,315	45,867	48,537	48,856
Water Heater Rentals	36,652	35,969	35,000	34,443

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

RESPONSE OF BAY STATE GAS COMPANY TO
RECORD REQUESTS FROM THE D.T.E.

D.T.E. 05-27
Date: July 12, 2005

Responsible: John Skirtich, Consultant (Revenue Requirements)

RR-DTE-22: Breakdown DTE 9-9 to the three service territories.

Response: The data below breaks down Miscellaneous Service Revenue by service territory.
For the Year 2002

Acct. No.	Description	Brockton 01250 \$	Springfield 02250 \$	Lawrence 04250 \$	Total \$
<u>Guardian Care Revenue</u>					
882-17	Gas Line Protection	29,162	18,545	6,786	54,493
882-18	Com Plans	6,115	1,901	828	8,844
882-19	Late Payment Charge	26,919	21,929	8,482	57,330
882-23	Basic – HH	261,364	183,677	68,016	513,057
882-24	Basic - WH/HH	251,751	146,730	68,638	467,119
882-25	Plus HH	756,771	475,311	210,135	1,442,217
882-26	Plus WH/HH	915,888	524,854	240,039	1,680,781
882-27	Open Plans	66,038	42,405	14,841	123,284
Total Guardian Care Revenue		2,314,007	1,415,351	617,766	4,347,124
<u>Water Heater Revenue</u>					
488-01	Rental Revenue – WH	2,229,657	1,985,666	588,980	4,804,304
488-03	Rental Revenue – HH	1,059,855	783,022	232,410	2,075,287
488-05	Rental Revenue – Late Pay CH-CB & Other	117,919	106,974	41,074	265,967
488-09	Liquefaction Service	(135)	0	0	(135)
Total Water Heater Revenue		3,407,296	2,875,662	862,465	7,145,423
<u>Customer Service Revenue</u>					
882-01	Labor	73,751	15,990	5,475	95,217
882-02	Parts Tx	10,216	6,484	3,667	20,367
882-03	Parts NT	(4,831)	(2,198)	(1,006)	(8,035)
882-29	Annual Inspections	343,346	258,269	73,362	674,977
882-30	A/C Annual Inspections – Labor	56,138	33,969	8,031	98,138
882-31	Water Heater Labor	58,480	59,442	16,769	134,691
882-32	Dry Labor	95	220	0	315
882-33	HH Labor	661,220	514,116	185,461	1,360,798
882-34	Other Labor	24,126	16,168	2,642	42,936
882-39	Inspection Parts	11,120	7,852	2,149	21,121
882-40	A/C Inspection Parts	1,025	409	34	1,467
882-41	WH Part Tx	10,484	12,966	1,671	25,121
882-42	Dry Part Tx	0	75	0	75
882-43	HH Part Tx	202,802	203,676	73,043	479,520
882-44	Other Part Tx	6,642	9,186	3,077	18,906
882-51	WH Part NT	(895)	(963)	(573)	(2,430)
882-53	HH Part NT	(14,977)	(14,586)	(726)	(30,290)
882-54	Other Part NT	219	956	4	1,179
Total Customer Service Revenue		1,438,961	1,122,032	373,079	2,934,072
Total 2002 Miscellaneous Service Revenue		7,160,265	5,413,045	1,853,310	14,426,620

For the Year 2003

<u>Acct. No.</u>	<u>Description</u>	<u>Brockton</u> <u>01250</u> \$	<u>Springfield</u> <u>02250</u> \$	<u>Lawrence</u> <u>04250</u> \$	<u>Total</u> \$
<u>Guardian Care Revenue</u>					
882-17	Gas Line Protection	44,723	27,487	10,830	83,041
882-18	Com Plans	7,649	3,298	135	11,082
882-19	Late Payment Charge	30,551	24,633	9,197	64,382
882-23	Basic - HH	217,545	152,651	52,805	423,001
882-24	Basic - WH/HH	201,778	116,379	57,923	376,081
882-25	Plus HH	944,062	615,177	260,177	1,819,416
882-26	Plus WH/HH	1,143,283	680,856	305,208	2,129,347
882-27	Open Plans	72,172	50,442	20,529	143,144
Total Guardian Care Revenue		2,661,764	1,670,924	716,805	5,049,493
<u>Water Heater Revenue</u>					
488-01	Rental Revenue – WH	2,240,249	2,026,245	593,408	4,859,903
488-03	Rental Revenue – HH	1,003,080	744,395	217,371	1,964,846
488-05	Rental Revenue - Late Pay CH-CB & Other	114,471	112,636	35,961	263,068
Total Water Heater Revenue		3,357,801	2,883,276	846,740	7,087,817
<u>Customer Service Revenue</u>					
882-01	Labor	37,396	16,102	4,119	57,618
882-02	Parts Tx	11,770	9,867	3,858	25,495
882-03	Parts NT	(3,891)	(973)	(236)	(5,100)
882-29	Annual Inspections	175,884	162,985	56,130	395,000
882-30	A/C Annual Inspections – Labor	39,004	32,233	6,283	77,520
882-31	Water Heater Labor	36,110	30,305	11,691	78,106
882-32	Dry Labor	95	0	95	190
882-33	HH Labor	428,249	355,481	107,154	890,884
882-34	Other Labor	18,291	12,365	1,737	32,393
882-39	Inspection Parts	2,732	1,386	889	5,007
882-40	A/C Inspection Parts	533	340	5	878
882-41	WH Part Tx	5,284	7,799	1,832	14,914
882-43	HH Part Tx	157,674	143,798	44,931	346,403
882-44	Other Part Tx	9,649	7,295	2,885	19,829
882-51	WH Part NT	(859)	(1,165)	(138)	(2,161)
882-53	HH Part NT	(13,809)	(16,546)	(2,994)	(33,349)
882-54	Other Part NT	(1,681)	(471)	0	(2,152)
Total Customer Service Revenue		902,433	760,802	238,240	1,901,474
Total 2003 Miscellaneous Service Revenue		6,921,997	5,315,001	1,801,786	14,038,784

For the Year 2004

<u>Acct. No.</u>	<u>Description</u>	<u>Brockton</u> <u>01250</u> \$	<u>Springfield</u> <u>02250</u> \$	<u>Lawrence</u> <u>04250</u> \$	<u>Total</u> \$
<u>Guardian Care Revenue</u>					
882-17	Gas Line Protection	58,201	36,222	12,350	106,773
882-18	Com Plans	7,302	4,026	414	11,743
882-19	Late Payment Charge	34,401	25,749	8,932	69,083
882-23	Basic - HH	180,914	127,304	46,292	354,511
882-24	Basic - WH/HH	166,099	93,129	44,134	303,361
882-25	Plus HH	1,127,265	710,862	294,115	2,132,241
882-26	Plus WH/HH	1,342,652	780,054	346,067	2,468,772
882-27	Open Plans	82,446	63,686	21,219	167,351
Total Guardian Care Revenue		2,999,279	1,841,032	773,523	5,613,834
<u>Water Heater Revenue</u>					
488-01	Rental Revenue - WH	2,229,805	2,043,611	585,820	4,859,235
488-03	Rental Revenue - HH	884,450	652,515	188,298	1,725,262
488-05	Rental Revenue - Late Pay CH-CB & Other	101,334	110,527	28,096	239,957
Total Water Heater Revenue		3,215,589	2,806,653	802,213	6,824,455
<u>Customer Service Revenue</u>					
882-01	Labor	36,260	17,933	6,262	60,456
882-02	Parts Tx	19,539	17,078	6,354	42,971
882-03	Parts NT	(8,935)	(2,677)	(3,391)	(15,003)
882-29	Annual Inspections	361,573	249,006	84,087	694,666
882-30	A/C Annual Inspections - Labor	83,960	51,153	12,434	147,547
882-31	Water Heater Labor	33,288	33,440	8,710	75,437
882-32	Dry Labor	285	0	0	285
882-33	HH Labor	369,500	290,299	78,997	738,796
882-34	Other Labor	15,731	10,288	1,413	27,431
882-39	Inspection Parts	6,514	4,987	4,691	16,191
882-40	A/C Inspection Parts	4,062	663	238	4,963
882-41	WH Part Tx	3,985	7,428	2,408	13,821
882-42	Dry Part Tx	155	75	0	230
882-43	HH Part Tx	125,544	110,809	38,892	275,245
882-44	Other Part Tx	3,875	4,777	2,480	11,133
882-51	WH Part NT	(76)	(368)	(116)	(559)
882-53	HH Part NT	(8,014)	(6,292)	(2,471)	(16,777)
882-54	Other Part NT	(285)	554	0	269
Total Customer Service Revenue		1,046,961	789,153	240,988	2,077,102
Total 2004 Miscellaneous Service Revenue		7,261,829	5,436,838	1,816,724	14,515,392

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

RESPONSE OF BAY STATE GAS COMPANY TO
RECORD REQUESTS FROM THE D.T.E.
D.T.E. 05-27

Date: July 12, 2005

Responsible: Lawrence Kaufmann, Consultant

RR-DTE-29 Please indicate whether there was a rate base increase during the period 1993-1998.

Response: My understanding is that there were two rate adjustments for Bay State in 1997 and 1998 that resulted through settlements, and both of these rate adjustments included some increase in rate base.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

RESPONSE OF BAY STATE GAS COMPANY TO
RECORD REQUESTS FROM THE D.T.E.
D.T.E. 05-27

Date: July 12, 2005

Responsible: Lawrence Kaufmann, Consultant

RR-DTE-30: Refer to the Company's response to DTE 4-54. Please explain the following sentence: "Unit costs are rising in the gas distribution industry" and define long and short-run. In particular:

- a) indicate what costs the Company refers to (e.g., total cost, capital costs or O&M costs);
- b) indicate whether the unit costs are rising in Bay State Gas. Please present evidences;
- c) explain why the unit costs are rising in the gas distribution industry.

Response:

- a) This response referred to total cost. The "long run" would be a period that is long enough for capital stock to adjust to its desired level. The "short run" would be a period where this is not the case and capital remains "quasi-fixed."
- b) I believe unit costs are rising for Bay State Gas. One piece of evidence for this is that the Company estimates that its current rates no longer recover its revenue requirements; this evidence is presented in the testimony of Mr. John Skiritich of Bay State. The evidence I presented for Boston Gas in D.T.E. 03-40 is also consistent with generally increasing unit costs in the Northeast gas distribution industry.
- c) In equation [2] of Exhibit BSG/LRK-1 (page 5 of 19), unit cost growth is defined as the change in input prices minus the change in total factor productivity. Equations [3]-[5] in Exhibit BSG/LRK-1 show that this expression for unit cost growth is algebraically equivalent to the change in GDP-PI minus the sum of the productivity differential (*i.e.* total factor productivity (TFP) growth for the industry minus the economy) and the inflation differential (*i.e.* input price growth for the economy minus the industry). In D.T.E. 03-40, the DTE found that the productivity and input price differentials for the Northeast gas distribution industry summed to 0.11%. Thus, as long as GDP-PI grows by at least 0.11% per annum, unit costs will be rising for the Northeast gas distribution industry. In recent years, GDP-PI has been growing at between 1.5% and 2.0% annually, so unit costs have been rising for the industry.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

RESPONSE OF BAY STATE GAS COMPANY TO
RECORD REQUESTS FROM THE D.T.E.
D.T.E. 05-27

Date: July 12, 2005

Responsible: Lawrence Kaufmann, Consultant

RR-DTE-31: Please define "capital stock" input and the number of principal components of it in the context of the gas distribution industry.

Response: The "capital stock" input refers to the capital assets that gas distributors need to utilize to provide gas delivery services. The principal components of gas distributors' capital stock are gas distribution mains and services.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

RESPONSE OF BAY STATE GAS COMPANY TO
RECORD REQUESTS FROM THE D.T.E.
D.T.E. 05-27

Date: July 12, 2005

Responsible: Lawrence Kaufmann, Consultant

RR-DTE-32: Please indicate how the capital stock level may affect the demand and use of other inputs (e.g., labor and other O&M).

Response: It may be possible to substitute capital for labor and other O&M inputs. For example, if more bare steel infrastructure is replaced, the demand for the inputs used to locate and repair gas leaks would be expected to decline over time. The design of the Company's steel infrastructure replacement mechanism (SIR) reflects this potential relationship between capital and O&M inputs, since the SIR tracks and shares with customers the savings in leak repair expenses that occur as more steel infrastructure is replaced. This is addressed in the testimony of Mr. Ferro.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

RESPONSE OF BAY STATE GAS COMPANY TO
RECORD REQUESTS FROM THE D.T.E.
D.T.E. 05-27

Date: July 12, 2005

Responsible: Lawrence Kaufmann, Consultant

RR-DTE-33: Refer to the Company's response to DTE 15-24.

- a) Please indicate the assumed mean of the fitted residuals;
- b) The Company stated that a firm's average efficiency level can differ over two separate multi-year periods. Please demonstrate that the empirical econometric model can distinguish between the random noise term and the efficiency term of the fitted residuals for the two separate multi-year periods;
- c) Indicate whether the Company assumes a zero mean for the random noise in each of the two separate multi-year periods.

Response:

- a) Over the entire sample, the mean of the fitted residuals would be expected to be close to zero. However, the fitted residuals for any given firm would not be expected or assumed to have any particular value but would, instead, reflect the unobserved level of management efficiency.
- b) This was demonstrated in the response to DTE 4-19.
- c) Yes.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

RESPONSE OF BAY STATE GAS COMPANY TO
RECORD REQUESTS FROM THE D.T.E.
D.T.E. 05-27

Date: July 12, 2005

Responsible: Lawrence Kaufmann, Consultant

RR-DTE-34: Provide the econometric computer printout and worksheets for the econometric cost results for the 1993-1998 period.

Response: Please see the attached file.

Att. RR-DTE-034

Gas Company

Bay State

D.T.E. 05-27
Attachment

RR-DTE-34

 GAUSS Data Export Facility

Begin export...

Export completed

Number of cases in GAUSS data set: 416.000

Number of cases written to foreign file : 416.000

Number of variables written to foreign file : 29.000

 Date: 7/11/05 **** SUR ESTIMATION RESULTS **** Time 17:14:36

OUTPUT FILE:C:\work\BAYSTATE\results\DR_05aa

DATA FILE:C:\work\BAYSTATE\bench03F.xls

 DEFINITIONS OF OUTPUT VARIABLES:

Y1 is number of customers.

Y2 is Total deliveries

DEFINITIONS OF BUSINESS CONDITION VARIABLES:

Z1 is % of non-iron and steel in Dx miles

Z2 is Number of Electric Customers

Z3 is northeast dummy variable

Z4 is Miles of Distribution Main

Model includes time trend

Time period used: 1994 through 2003

k = nadd10

 GAUSS Data Import Facility

Begin import...

Import completed

Number of rows in input file: 430

Number of cases written to GAUSS data set: 430

Number of variables written to GAUSS data set: 60

1

416

Att. RR-DTE-034

 SEEMINGLY UNRELATED REGRESSION WITH HETEROSKEDASTICITY 7/11/2005 5:14 pm

 Data Set: C:\work\BAYSTATE\Temp_3.dat

 DIVISOR USING N IN EFFECT
 RESTRICTIONS IN EFFECT

ITER. # =	0	LOG OF DETERMINANT OF SIGMA =	2.89384419
ITER. # =	1	LOG OF DETERMINANT OF SIGMA =	2.88334479
ITER. # =	2	LOG OF DETERMINANT OF SIGMA =	2.88277672
ITER. # =	3	LOG OF DETERMINANT OF SIGMA =	2.88274771
ITER. # =	4	LOG OF DETERMINANT OF SIGMA =	2.88274625
ITER. # =	5	LOG OF DETERMINANT OF SIGMA =	2.88274618
ITER. # =	6	LOG OF DETERMINANT OF SIGMA =	2.88274617
ITER. # =	7	LOG OF DETERMINANT OF SIGMA =	2.88274617

 Equation: 1
 Dependent variable: C

Total cases:	416	Valid cases:	416
Total SS:	368.757	Degrees of freedom:	----
R-squared:	0.910	Rbar-squared:	0.907
Residual SS:	33.309	Std error of est:	2.451
Durbin-Watson:	0.350		

Variable	Estimated Coefficient	Standard Error	t-ratio	Prob > t
CONST	6.86054993	0.02390189	287.030	0.0000
WL	0.57094493	0.00519405	109.923	0.0000
Y1	0.49375979	0.06514382	7.580	0.0000
Y2	0.11839891	0.05194250	2.279	0.0232
WLWL	-0.20270927	0.04569617	-4.436	0.0000
Y1Y1	-0.09170216	0.10280217	-0.892	0.3729
Y2Y2	-0.05378766	0.15044676	-0.358	0.7209
WLY1	-0.04352577	0.01266348	-3.437	0.0006
WLY2	0.02449410	0.01374706	1.782	0.0755
Y1Y2	0.09778798	0.12166381	0.804	0.4220
Z1	-0.38000007	0.06873261	-5.529	0.0000
Z2	-0.01197801	0.00164236	-7.293	0.0000
Z3	0.07786164	0.01074909	7.244	0.0000
Z4	0.26702152	0.05658037	4.719	0.0000
TREND	-0.01253956	0.00337981	-3.710	0.0002
K	-0.10568687	0.01621386	-6.518	0.0000

 Equation: 2
 Dependent variable: SL

Total cases:	416	Valid cases:	416
Total SS:	8.878	Degrees of freedom:	----
R-squared:	0.111	Rbar-squared:	0.113
Residual SS:	7.895	Std error of est:	1.774
Durbin-Watson:	0.491		

Att. RR-DTE-034				
Variable	Estimated Coefficient	Standard Error	t-ratio	Prob > t
CONST	0.57094493	0.00519405	109.923	+DEN
WL	-0.20270927	0.04569617	-4.436	0.0000
Y1	-0.04352577	0.01266348	-3.437	0.0006
Y2	0.02449410	0.01374706	1.782	0.0755

MEASURES OF GOODNESS-OF-FIT

AN UNCENTERED SYSTEM R-SQUARE	0.905
A CENTERED SYSTEM R-SQUARE	0.913

The results from the test of the null hypothesis that all slope coefficients in all equations are simultaneously equal to zero.

Test statistic	Prob > t
1013.931	0.0000

VALIDATION OF REGULARITY CONDITIONS

Monotonicity of the Estimated Cost Function

The number of observations for which each of the following predicted cost share is nonpositive is listed below

labor	Materials
0	0
(0.00 %)	(0.00 %)

Concavity of the Estimated Cost Function

The number of the observations for which the condition that the matrix of second order partial derivatives of the cost function with respect to input wages is negative semi-definite holds:

416 (100.00 %)

Quasi-Concavity of the Estimated Cost Function

The number of observations for which the condition that the cost function is strictly quasi-concave in input prices holds:

416 (100.00 %)

Second Order Condition for Cost Minimization

The number of the observations for which the condition that the bordered Hessian is negative definite holds:

416 (100.00 %)

Groupwise heterosked. :1386.891
 Prob Chi2 (df=N_firms):0.000

OUT-OF-SAMPLE PREDICTION OF VARIABLE COST LEVEL PERFORMANCE FIRST 5 YEARS

Actual	Predicted	Difference	t_ratio	p_value	Utility
3.983	5.531	-1.547	-35.190	0.000	26.000
7.211	7.793	-0.582	-13.240	0.000	23.000
6.596	7.102	-0.506	-7.281	0.000	41.000
6.672	7.014	-0.343	-7.790	0.000	25.000
7.227	7.541	-0.314	-7.144	0.000	16.000
6.168	6.416	-0.248	-5.045	0.000	17.000
7.520	7.740	-0.220	-5.010	0.000	12.000
5.700	5.896	-0.195	-4.445	0.000	53.000
6.351	6.536	-0.185	-4.212	0.000	49.000
7.157	7.289	-0.132	-3.008	0.003	4.000
4.946	5.072	-0.126	-2.873	0.004	7.000
6.536	6.633	-0.098	-2.218	0.027	30.000
4.522	4.603	-0.081	-1.435	0.152	54.000
7.373	7.424	-0.051	-1.151	0.250	13.000
5.697	5.733	-0.036	-0.807	0.420	31.000
6.453	6.489	-0.035	-0.807	0.420	24.000
7.765	7.800	-0.035	-0.786	0.432	34.000
6.466	6.493	-0.028	-0.630	0.529	28.000
6.474	6.491	-0.017	-0.389	0.697	Bay State
6.141	6.152	-0.011	-0.244	0.808	10.000
6.105	6.111	-0.006	-0.135	0.892	36.000
5.430	5.411	0.019	0.429	0.668	45.000
5.544	5.511	0.033	0.750	0.454	22.000
6.502	6.460	0.042	0.965	0.335	43.000
6.076	6.033	0.043	0.764	0.445	33.000
7.469	7.422	0.046	1.052	0.293	15.000
5.172	5.118	0.053	1.208	0.228	57.000
6.605	6.538	0.067	1.523	0.129	1.000
5.676	5.609	0.068	1.535	0.126	6.000
8.287	8.201	0.086	1.964	0.050	27.000
6.142	5.997	0.146	3.313	0.001	11.000
6.734	6.587	0.147	3.338	0.001	3.000
6.835	6.682	0.153	3.474	0.001	46.000
6.465	6.310	0.155	3.514	0.000	9.000
6.741	6.559	0.182	4.135	0.000	38.000
6.412	6.206	0.207	4.701	0.000	37.000
8.773	8.560	0.213	4.845	0.000	40.000
7.007	6.747	0.260	5.911	0.000	21.000
6.910	6.638	0.272	6.187	0.000	44.000
7.756	7.472	0.284	6.456	0.000	2.000
8.092	7.801	0.292	6.629	0.000	5.000
7.395	6.935	0.461	10.475	0.000	42.000

OUT-OF-SAMPLE PREDICTION OF VARIABLE COST LEVEL PERFORMANCE LAST 5 YEARS

Actual	Predicted	Difference	t_ratio	p_value	Utility
7.397	7.839	-0.443	-6.998	0.000	23.000
6.835	7.194	-0.359	-5.684	0.000	41.000
6.343	6.683	-0.340	-5.376	0.000	30.000

4.818	5.116	-0.298	Att. RR-DTE-034	7.000
5.602	5.890	-0.288	-4.707	53.000
5.317	5.578	-0.261	-4.554	26.000
5.520	5.778	-0.258	-4.124	31.000
7.358	7.607	-0.248	-4.072	12.000
6.430	6.634	-0.205	-3.926	24.000
6.216	6.395	-0.179	-3.240	17.000
6.426	6.602	-0.176	-2.832	49.000
6.829	6.997	-0.168	-2.789	25.000
6.361	6.527	-0.167	-2.659	28.000
7.320	7.481	-0.161	-2.637	13.000
6.520	6.655	-0.135	-2.541	Bay State
6.429	6.554	-0.125	-2.139	43.000
5.663	5.786	-0.123	-1.974	6.000
6.032	6.127	-0.096	-1.951	9.000
6.718	6.783	-0.065	-1.515	46.000
6.023	6.062	-0.039	-1.032	33.000
7.182	7.214	-0.031	-0.611	4.000
8.221	8.246	-0.024	-0.495	27.000
4.580	4.594	-0.015	-0.386	54.000
5.487	5.495	-0.009	-0.231	45.000
6.153	6.149	0.003	-0.138	10.000
5.989	5.980	0.009	0.049	11.000
6.273	6.233	0.040	0.141	37.000
6.301	6.257	0.044	0.628	36.000
7.851	7.790	0.061	0.697	34.000
5.635	5.573	0.062	0.968	22.000
6.611	6.531	0.079	0.988	3.000
5.308	5.213	0.095	1.253	57.000
6.690	6.593	0.097	1.505	1.000
7.558	7.428	0.131	1.533	15.000
8.776	8.642	0.135	2.065	40.000
7.576	7.402	0.173	2.127	29.000
7.723	7.526	0.197	2.454	2.000
7.868	7.626	0.242	3.113	5.000
6.815	6.568	0.247	3.822	44.000
6.906	6.658	0.249	3.910	38.000
7.303	7.003	0.300	3.936	42.000
7.089	6.750	0.339	4.748	21.000
7.851	7.485	0.366	5.355	16.000
			5.793	